

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
	)	

**REPLY COMMENTS OF ALCATEL-LUCENT**

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## **SUMMARY**

The Federal Communications Commission should refrain from imposing Net Neutrality regulation on public Internet access in the absence of any evidence of anticompetitive conduct.

Quality of service (QoS) technology gives broadband service providers the ability to offer a superior broadband experience to end-users. Currently, bandwidth is a limited resource and therefore requires practices such as QoS and packet prioritization in order to manage their networks effectively. A blanket prohibition on these network management practices achieves no pro-competitive benefit, and in fact will hinder end-users' broadband experience. Net Neutrality proponents further fail to recognize that the Internet is not "neutral." Much of the data traveling over the Internet is routed according to private commercial agreements and achieve throughput faster than simple "best efforts routing." As a result, Net Neutrality is nothing more than an anticompetitive tool employed by some firms as a means of locking in their existing marketplace advantages.

Next generation broadband networks are currently being deployed across the U.S. Despite conclusions drawn from OECD data, direct comparisons between the broadband market in the U.S. and those of other nations offer no cause for concern. The U.S. enjoys significantly higher rates of intermodal broadband competition than many European nations do, making any such comparison misleading as a barometer of broadband competition in the U.S.

The state of broadband innovation and competition in the U.S. has never been stronger. Net neutrality regulation will serve as an anti-competitive brake on continued innovation and will endanger the pro-competitive environment in place today.

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**REPLY COMMENTS OF ALCATEL-LUCENT**

**I. INTRODUCTION**

Alcatel-Lucent files these reply comments before the Federal Communications Commission (“Commission”) in response to comments filed in the above captioned proceeding.<sup>1</sup>

Alcatel-Lucent is a leading telecommunications equipment manufacturer, with almost 80,000 employees located in 130 countries. Alcatel-Lucent is a leader in global research and development capabilities, leveraging the strength of Bell Labs and the research and innovation made possible by our 23,000 employees in the R&D field alone. Alcatel-Lucent’s combined focus on global R&D and practical technologies and applications has made our company the largest wireline broadband access manufacturer in the world, the third largest wireless manufacturer, among the top three in applications and services, and the leading provider of enterprise communications solutions in Europe.

Alcatel-Lucent’s leadership in broadband access technologies comes in many different forms, including Digital Subscriber Line (DSL) and Internet Protocol Television

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<sup>1</sup> *Broadband Industry Practices*, Notice of Inquiry, WC Docket No. 07-52, ( 2007) (“NOI”).



(IPTV), Passive Optical Networks (PON), 3G, WiMAX, and numerous other cutting-edge technologies. Alcatel-Lucent technology powers millions of broadband access connections throughout the world, and we are currently deploying IPTV facilities in dozens of countries, including the United States, where we are assisting AT&T in assembling its access network for its U-Verse IPTV platform. Alcatel-Lucent is also working with Verizon in the deployment of its FiOS network.

In its NOI, the Commission requested comment on the question of whether it should include a “nondiscrimination principle” to its existing Broadband Policy Statement.<sup>2</sup> Over the course of its consideration, the issue of Net Neutrality has largely come to rest on a discussion of the appropriate use of Quality of Service (QoS) technologies that might enable packet prioritization with respect to public Internet traffic. In this respect, Net Neutrality proponents filing in this proceeding have failed to demonstrate a single example of a broadband service provider employing QoS in a discriminatory manner.<sup>3</sup> QoS technologies enabling packet prioritization within local access networks, such QoS has no impact on “best efforts” public Internet traffic. With respect to end-to-end packet prioritization, it is simply the case that the application of such QoS to public Internet traffic, while possible in theory, is not practical or possible today on any widespread basis without significant investment.

QoS is a necessary evolution of broadband networks that will dramatically improve consumers’ Internet experience. At its core, the issue of Net Neutrality –

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<sup>2</sup> See NOI at ¶ 10; *Appropriate Framework for Broadband Access To The Internet Over Wireline Facilities*, Policy Statement, 20 F.C.C.R. 14986 ¶ 2 (2005).

<sup>3</sup> See, e.g. Comments of the Open Internet Coalition, WC Docket No. 07-52 (filed June 15, 2007) (“Open Internet Coalition Comments”); Comments of Google, Inc. WC Docket No. 07-52 (filed June 15, 2007) (“Google Comments”); Comments of the Consumer Federation of America, Consumers Union, and Free Press WC Docket No. 07-52 (filed June 15, 2007) (“Consumer Group Comments”).

whether to adopt a nondiscrimination regulation for public Internet traffic traversing broadband networks – is a debate about whether broadband networks and the Internet itself should be permitted to evolve into intelligent networks, or whether intelligence should be regulated exclusively to the network’s edge. Alcatel-Lucent supports an open and growing broadband market where *all* stakeholders are free to innovate and compete based on their own investments.

Absent any demonstrable evidence of a need for Net Neutrality regulation, advocates instead seek to create the fear that the U.S. broadband market is “falling behind,” and Net Neutrality is the “silver bullet” regulatory policy that will cure our broadband ills. Whether discounting wireless broadband as broadband at all, so as to create a picture of an artificial cable-telco broadband duopoly, or by making skewed comparisons of the U.S. broadband market to those abroad, Net Neutrality proponents simply seek to push their regulatory agenda through fear, uncertainty, and doubt.

Fortunately, the facts speak for themselves. The U.S. broadband market is benefiting from massive investments in next generation broadband infrastructure, wireline and wireless alike, and unfavorable comparisons of the U.S. broadband market to those of other nations’ falls flat.

The Commission’s light-touch regulatory policy for the broadband market<sup>4</sup> has provided clear leadership and regulatory certainty spurring billions of dollars in

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<sup>4</sup> See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17145, at ¶ 278 (2003) (Triennial Review Order), corrected by Errata, 18 FCC Rcd 19020 (2003) (Triennial Review Order Errata), *vacated and remanded in part, aff’d in part, United States Telecom Ass’n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) (USTA II) *cert. denied*, 543 U.S. 925, (2004); *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, Decl. Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (Cable Modem Declaratory Ruling); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005); United Power Line Council’s Petition for Declaratory Ruling

investment and innovation. As the Federal Trade Commission has recently concluded, the U.S. broadband market is in no need of precipitous regulation.<sup>5</sup>

## **II. THE USE OF QUALITY OF SERVICE (QoS) TECHNOLOGY IN NEXT GENERATION BROADBAND NETWORKS CAN CREATE A SUPERIOR INTERNET EXPERIENCE.**

The Internet has become a major part of American life for consumers and enterprises alike, and is increasingly a critical component of our nation's economy. With our increasing reliance on the Internet comes increasing applicability of the Internet myriad activities. Our common interest in using the Internet for social and business interactions has driven American consumers and businesses to pursue ever faster, untethered connections that provide superior means of using this great resource. As a result, Americans continue to rapidly transition from dial-up to broadband Internet access. As formerly distinct communications platforms converge into IP Multimedia platforms, Americans have increasing access to content and applications formerly reserved for one distinct platform or another. Content and applications are driving broadband deployment. Broadband deployment is driving the increasing availability and creation of content and applications. A new cycle of innovation in our communications marketplace has only just begun.

Innovation in today's broadband marketplace is not without its challenges. As Broadband service providers offer increasing amounts of bandwidth in their networks to accommodate content and applications, it has been demonstrated repeatedly that content

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Regarding the Classification of Broadband over Power Line Internet Access as an Information Service, Mem. Op. and Order, 21 FCC Rcd 13281 (2006);, *Appropriate Treatment for Broadband Access to the Internet Over Wireless Networks*, Decl. Ruling, 22 FCC Rcd 5901 (2007).

<sup>5</sup> See Federal Trade Commission, *Staff Report on Broadband Connectivity Competition Policy* 157-62, (June, 2007) ("FTC Report"), <http://www.ftc.gov/reports/broadband/v070000report.pdf>.



and applications swallow up the bandwidth that is available. In the future, we may arrive at a point in innovation where we no longer need to discuss specific concepts such as “bandwidth,” but that day has yet to arrive. In the process of transitioning from a dial-up world to the new frontier of limitless communications, competing demands on today’s broadband infrastructure necessarily must be balanced to allow service providers to manage their networks in a way that ensures QoS and the ability to deliver new and innovative products and services successfully.

It is critical that our nation’s broadband policy create an environment where infrastructure improvement and network management are synonymous with next-generation applications and services, not a regulation-inspired choke point in the network.

**a. Net Neutrality Focuses on Public Internet Access.**

Recent events demonstrate that regulators and policy makers increasingly understand that QoS has an important role to play in broadband networks, especially concerning the provision of privately managed IP-based services, such as IPTV. As a result, the debate over Net Neutrality has narrowed from a discussion of “dumb pipe” regulation,<sup>6</sup> which is essentially “virtual unbundling” free of charge, to a discussion of Net Neutrality regulation for the public Internet access portion of broadband access networks.

The Commission’s AT&T/BellSouth merger Order includes a voluntary Net Neutrality condition that applies only to AT&T’s DSL and WiMAX services, and expressly exempts the application of the Net Neutrality condition to IPTV and enterprise

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<sup>6</sup> See Comments of AT&T, Inc. at 51, WC Docket No. 07-52 (filed June 15, 2007) .



services.<sup>7</sup> Senators Dorgan and Snowe reintroduced Net Neutrality legislation in the Senate earlier this year, and their legislation only applies Net Neutrality to public Internet access.<sup>8</sup>

In comments in this proceeding, leading proponents of Net Neutrality focus on “packet discrimination” of “Internet” traffic, including blocking, degradation, or prioritization of such content.<sup>9</sup> Google has taken the added step of identifying a host of QoS/network management practices it condones.<sup>10</sup>

While the narrowing focus of the Net Neutrality debate is a marked improvement, it remains the case that the record fails to reflect the need for Net Neutrality regulation in the absence of alleged “packet discrimination.” As Google and others have commented, there is widespread agreement that blocking and degradation of Internet traffic is inappropriate.<sup>11</sup>

The record reveals no evidence of blocking or degradation of Internet traffic for discriminatory purposes. Suggestions that broadband service providers be deprived the discretion to manage bandwidth use over platforms that operate on a shared bandwidth basis, such as wireless broadband or cable modem service, fail to appreciate technological reality. For such platforms, where bandwidth is a shared resource,

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<sup>7</sup> Press Release, Federal Communications Commission, *FCC Approves Merger of AT&T Inc. and BellSouth Corporation* (Dec. 29, 2006) available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-269275A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-269275A1.pdf).

<sup>8</sup> Internet Freedom and Preservation Act, S. 215, 110<sup>th</sup> Cong. (introduced January 9, 2007).

<sup>9</sup> See, e.g. Open Internet Coalition Comments at 14-15; Google Comments at 8, 21-32.

<sup>10</sup> *Id.* at 22-23.

<sup>11</sup> See, e.g. Google Comments at 21-22, n. 49; Comments of the National Cable and Telecommunications Association at 7, WC Docket No. 07-52 (filed June 15, 2007) (NCTA Comments); Comments of Verizon and Verizon Wireless at 30, WC Docket No. 07-52 (filed June 15, 2007).

appropriate network management specific to bandwidth sharing must be employed to ensure all end users receive reliable service.

While it may be convenient for Net Neutrality advocates to ignore the reality of technologies that employ bandwidth sharing among end users, Net Neutrality regulation would have the perverse effect of permitting one consumer to essentially degrade all other users' Internet service, or even disconnect them from the Internet altogether.

Similarly, the concept of "packet prioritization" is no justification for the adoption of Net Neutrality regulation. First and foremost, prioritization in access networks has no affect on unprioritized "best efforts" Internet traffic. Second, end-to-end packet prioritization for Internet traffic does not and cannot take place today. It could represent a solution to the actual lack of neutrality that is the hallmark of today's commercial Internet, but only if Net Neutrality regulations are not adopted, as they do little more than preserve the status quo and hamper new forms of competition for the intelligent delivery of Internet traffic.

#### **b. What is QoS?**

When considering the use of QoS, it is critical to understand the various positive roles it can play in broadband networks. QoS is network management and technology currently used to offer managed services alongside public Internet access. It is used to ensure applications, such as IPTV, virtual private network, or other services work as advertised. Lastly, and importantly, it is used to ensure that emergency 911 calls can access the network as required. QoS can also be used to manage public Internet access utilizing packet prioritization.

For instance, a consumer subscribing to an Internet-based IPTV service would not be pleased if their television set went dark or their VoIP phone call was dropped every time they also accessed content on the web or sent and received email. QoS could be used to enable consumers to enjoy multiple applications delivered over the Internet simultaneously, by ensuring that the services requiring greater consistency in packet transmission receive it.

QoS today works well within the bounds of a controlled environment (e.g. a service provider's own network) and on end-to-end private networks, but QoS is largely managed today using statistical traffic engineering – not by marking services with a priority scheme and packet management, but by providing enough capacity (bandwidth) in networks to avoid significant congestion, even though QoS mechanisms have long existed. This is analogous to the engineering of highways and byways, as opposed to prioritizing which vehicles enter the ramps in which order. However, continual expansion of bandwidth to avoid congestion is wholly impractical in wireline and wireless access networks due to the time it takes to upgrade them, and incrementally higher costs per data bit due to substantially less ability to leverage statistical usage.

### **c. Localized Packet Prioritization**

Prioritization of Internet traffic can be employed in the local access network, where broadband service providers essentially create an “express lane” for Internet traffic designated to use it. All other Internet traffic is untouched by the service provider – there is no blocking or degradation of unprioritized Internet traffic – and completes its journey to end users according to “best efforts” Internet routing. Given that no Internet content or applications provider can be *required* to participate in any traffic delivery solution



utilizing packet prioritization, and they are free to deliver their content to end users according to traditional “best efforts” routing, Net Neutrality regulation prohibiting the use of prioritization achieves no pro-competitive result. Net Neutrality regulation of localized prioritization can only prevent the emergence of new opportunities for efficient and consumer-friendly network management of Internet traffic.

#### **d. End-to-End Packet Prioritization**

To implement end-to-end prioritization for public Internet access – where communications are increasingly bandwidth intensive and two-way, and localized prioritization cannot possibly account for an end-to-end prioritization concept where both the origination and termination of a communication are not under the control of one entity – requires numerous developments that are not taking place today. Industry standards would have to be adopted that put in place common policies for the labeling and prioritization of data packets. Public Internet traffic must traverse the networks of numerous broadband service providers. This means that in order to favor the traffic of Service A over Service B during its entire trip through the Internet, each service provider and backbone network would have to prioritize and label packets in exactly the same way – a scenario that does not exist today. The idea that a service provider could independently maintain priority routing for its “preferred data packets” between a user in Washington, DC and Los Angeles, CA is not possible over the public Internet absent a comprehensive agreement between all network service providers to treat and identify data packets based on a common standard not currently in existence. Absent such developments, the data would almost certainly change hands at least once, likely

stripping it of any prioritization it might have enjoyed inside the network of a sole provider.

Lastly, even if all broadband service providers obeyed a universal packet labeling and prioritization scheme, they would all have to offer at least a common minimum in bandwidth that permits universal prioritization to work on a consistent basis. The current “best efforts” Internet only permits a packet of data to arrive at its destination as fast as the slowest network over which it traverses. So if a consumer subscribes to an Internet-based IPTV service using a broadband Internet access connection of 100 megabits per second (Mb/s), and the packets representing the IPTV service flow across a network operating at 1 Mb/s, that IPTV service will not be viewable through the 100 Mb/s connection. The current state of broadband connectivity in the U.S. and the broader world is not presently at a consistently high level of bandwidth, however high that might be, to eliminate all bottlenecks in the collection of networks we call the Internet to allow for end-to-end prioritization.

It is precisely for this reason that QoS developments should not be impeded by regulation. The current “best efforts” Internet cannot provide consumers’ with the results that a QoS enabled Internet experience could provide. In contrast to watching high quality video, web page browsing or checking e-mail requires less consistency in transmission than image-intensive applications, and delayed or dropped packets can simply be re-sent virtually at the network’s convenience without any noticeable gap in service or responsiveness from the consumer’s perspective. This ability to work within the confines of a somewhat unreliable network is inherent with the “best efforts” Internet today. For bandwidth intensive Internet applications, where consumers are less likely to

engage content they cannot receive reliably and quickly, the “best efforts” Internet is a shaky proposition at best.

**e. The Internet Is Not Neutral**

To say that “all public Internet packets should be treated the same,” as Net Neutrality advocates continue to suggest sounds noble in principle. However, it is wholly impractical given the nature of the Internet today. Simply stated, the public Internet is not neutral today as a consequence of the “best efforts” Internet being less than ideal for commercial purposes. As explained by Craig McTaggart, Senior Regulatory Legal Counsel for TELUS Communications Company, preferred content arrangements, distributed computing, control over network abuse, interconnection and interconnectivity between broadband service providers and content and applications providers, and resource-intensive content and applications all demonstrate that discriminatory choices with respect to Internet traffic are made every day.<sup>12</sup>

In essence, much Internet traffic is originated and terminated subject to privately negotiated commercial arrangements amongst infrastructure and content companies, and the massive investment by content companies in their own edge intelligence for the purpose of *overcoming* the unreliability of the “best efforts” Internet. As has been detailed for the Commission in this very proceeding, Internet content providers are investing billions to this end.<sup>13</sup> The “best efforts” public Internet is simply not reliable

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<sup>12</sup> See Craig McTaggart, *Was the Internet Ever Neutral?*, paper prepared for the 34<sup>th</sup> Research Conference on Communication, Information and Internet Policy, George Mason University School of Law, Sept. 30, 2006 at 4-14, available at <http://web.si.umich.edu/tprc/papers/2006/593/mctaggart-tprc06rev.pdf> (Mr. McTaggart's presentation represents his views, and not the views of TELUS).

<sup>13</sup> See AT&T Comments at 13-21.



enough for commercial purposes, and these realities have made for anything but a neutral Internet.

When leading Internet content and applications providers support prohibitions on broadband service provider use of QoS packet prioritization, they are advocating that public policy require all *other* Internet content providers to use the unreliable “best efforts” Internet. They are exempt from such a restriction, of course, because they either have billions to invest in their own edge intelligence, or can pay another party to provide it to them. It is the small enterprise or start up who suffers under Net Neutrality, as it will foreclose the possibility of their obtaining the same intelligence-based benefits their well-heeled competitors already provide for themselves

To actually create a neutral Internet would require substantial changes in the Internet’s design, standardization of QoS policies between network operators that hardly exist today, and implementation of some sort of vendor-agnostic, nationwide monitoring system for the labeling and identification of data packets. Major changes in the business side of the Internet must first take place in order for QoS to be applied to the nationwide public Internet for purposes of *creating* neutrality, let alone some form of discrimination. In other words, many of the very developments Net Neutrality regulation would stifle. The Federal Trade Commission has noted that at least one leading Net Neutrality advocate has raised the same point.<sup>14</sup>

Since end-to-end packet prioritization is not employed for public Internet access today, and since public Internet access is not currently neutral, it seems reasonable to conclude that Net Neutrality would ultimately *preserve* the not-so-neutral Internet as we

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<sup>14</sup> See FTC Report at 32, n. 120.

know it. Google, for instance, has acknowledged that stakeholders agree this debate is not about broadband service providers blocking or degrading public Internet traffic once it terminates at their local access networks, but is about preventing them from prioritizing Internet traffic.<sup>15</sup> If an Internet content provider's packets arrive at a local access network, and broadband service providers take no action to interfere with them (i.e. no blocking or degradation), then exactly what does Net Neutrality protect against?

Net Neutrality would freeze today's Internet in place, by preventing the advent of smart Internet access networks and smart Internet routing that in the future may provide Internet content and applications providers with an alternative to investments in edge intelligence. Existing content and applications providers have a vested interest in supporting Net Neutrality as a means of preventing such innovations in broadband network use and innovation, as it protects their existing market advantages. What could be more anticompetitive than Net Neutrality?

#### **f. Packet Prioritization Is Pro-Competitive**

With respect to packet prioritization Net Neutrality regulation would result in the very anticompetitive trends it purports to prevent. Packet prioritization can be employed to provide new opportunities for more efficient and consumer-friendly management of Internet traffic, and public policy should permit it to develop accordingly, and in the absence of any evidence prioritization is having a negative impact on Internet content and applications providers or consumers. Precipitous Net Neutrality regulation prohibiting the use of localized or end-to-end packet prioritization will result in a regulatory windfall for a few firms who have already invested in intelligent networks designed to overcome the deficiencies of "best efforts" Internet routing, compared to others who may elect to

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<sup>15</sup> See Google Comments at 22, 26-29.

take advantage of the same benefits when extended to them by broadband service providers.

### **III. NEXT GENERATION BROADBAND IS BEING DEPLOYED IN THE U.S., AND COMPARISONS TO BROADBAND MARKETS IN OTHER OECD NATIONS PROVIDES NO SUPPORT FOR THE ADOPTION OF NET NEUTRALITY.**

Those commenter's supporting the adoption of Net Neutrality spend considerable efforts in support of Internet regulation not by identifying examples of how the lack of Net Neutrality regulation has harmed Internet content and applications providers or consumers, but how Net Neutrality is an appropriate response to the lack of competition and innovation in the U.S. broadband market. Despite the rhetoric, the facts of broadband deployment are clear. Commenter's in this proceeding have elaborated on the robust competition and broadband deployment in the U.S. broadband market, but Alcatel-Lucent will point out some specific examples of *next generation* broadband deployment for purposes of illustration.

#### **a. Examples of Next Generation Broadband Deployment**

AT&T continues to deploy its U-verse network, representing a \$4 billion investment in next generation broadband.<sup>16</sup> To date, AT&T's Fiber-To-The-Node (FTTN) network passes more than 3 million living units, U-Verse service is available in 23 markets, and has more than 40,000 subscribers as of this past June.<sup>17</sup> In addition, AT&T has selected Gigabit Passive Optical Network (GPON) technology for the Fiber-

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<sup>16</sup> See Margureite Reardon, *AT&T Enters TV Market*, CNet News.com (Jan. 5, 2006), [http://news.com.com/AT38T%20enters%20TV%20market/2100-1033\\_3-6020423.html](http://news.com.com/AT38T%20enters%20TV%20market/2100-1033_3-6020423.html); AT&T U-Verse Timeline, <http://www.att.com/Common/merger/files/pdf/U-verse%20Timeline41907.pdf>.

<sup>17</sup> See AT&T Media Kits, *AT&T U-Verse: Cooler Than Cable*, <http://www.att.com/gen/press-room?pid=5838>.



To-The-Home portion of its U-Verse network, representing a quadruple increase in capacity over traditional Broadband Passive Optical Network FTTH solutions.<sup>18</sup>

Verizon continues to deploy its FiOS FTTH solution, an \$18 billion investment.<sup>19</sup> FiOS now passes over 6 million homes and Verizon reports that 1 million Americans now subscribe to its FTTH network.<sup>20</sup> Verizon is already transitioning its FTTH network to GPON technology, continuing to push the envelope and provide superior connectivity to its customers.<sup>21</sup>

The cable television industry has spent over \$110 billion since 1996 to offer digital cable and broadband services.<sup>22</sup> Currently the cable industry is preparing to launch DOCSIS 3.0, which it states will achieve broadband capabilities of 160 Megabits per second (Mb/s) downstream and 120 Mb/s upstream.<sup>23</sup>

Small and rural LECs are also investing in next generation broadband, including the deployment of technologies ranging from DSL, FTTH and Fiber-to-the-Curb,

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<sup>18</sup> See [http://www.alcatel-lucent.com/wps/portal/!ut/p/kcxml/04\\_Sj9SPykssy0xPLMnMz0vM0Y\\_QjzKLd4x3tXDUL8h2VAQAURh\\_Yw!!?LMSG\\_CABINET=Docs\\_and\\_Resource\\_Ctr&LMSG\\_CONTENT\\_FI LE=News\\_Releases\\_2007/News\\_Article\\_000371](http://www.alcatel-lucent.com/wps/portal/!ut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QjzKLd4x3tXDUL8h2VAQAURh_Yw!!?LMSG_CABINET=Docs_and_Resource_Ctr&LMSG_CONTENT_FI LE=News_Releases_2007/News_Article_000371) and <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=23962>

<sup>19</sup> See Light Reading, *Verizon to Pump 18b Into FIOS by 2010* (Sept. 27, 2006) [http://www.lightreading.com/document.asp?doc\\_id=104704&f\\_src=lightreading\\_default](http://www.lightreading.com/document.asp?doc_id=104704&f_src=lightreading_default)

<sup>20</sup> See News Release, Verizon, *Verizon's One Millionth FiOS Internet Customer Lives New Digital Lifestyle* (June 20, 2007) <http://newscenter.verizon.com/press-releases/verizon/2007/verizons-one-millionth-fios.html>; News Release, Verizon, *Verizon to Begin Deployment of New Technology That Increases Speed of FiOS Fiber-to-the-Premises Links by Four to Eight Times* (March 27, 2007) <http://newscenter.verizon.com/press-releases/verizon/2007/verizon-to-begin-deployment.html>

<sup>21</sup> *Id.*

<sup>22</sup> NCTA Comments at 1.

<sup>23</sup> See Press Release, Cable Labs, *CableLabs® Issues DOCSIS® 3.0 Specifications Enabling 160 Mbps* (Aug. 7, 2006) [http://www.cablelabs.com/news/pr/2006/06\\_pr\\_docsis30\\_080706.html](http://www.cablelabs.com/news/pr/2006/06_pr_docsis30_080706.html).

wireless, satellite and cable modem.<sup>24</sup>

#### **b. Wireless Data Services Are Broadband**

Wireless broadband service providers are similarly investing billions of dollars into the deployment and upgrading of their networks to make ever more powerful wireless broadband services available across the U.S.<sup>25</sup> Wireless broadband service providers are deploying technologies such as Evolution – Data Only (EV-DO), High Speed Downlink Packet Access (HSDPA), Universal Mobile Telecommunications Service (UMTS), Wideband Code Division Multiple Access (WCDMA), Wi-Fi, and WiMAX.<sup>26</sup> Wireless carriers are also proceeding towards the deployment of 4G technologies.<sup>27</sup>

Wireless broadband services and technology cannot be dismissed as “not broadband,” simply because such an argument is convenient, or wireless technologies function differently than wireline broadband systems. While wireless broadband differs from wired broadband offerings in some ways – including by offering mobility to the user – the presence of a competing platform has a disciplining effect on the broadband market. As the FTC has stated: “[i]f a wireless broadband service appeals to a sufficient number of marginal cable modem or DSL broadband consumers to constrain pricing

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<sup>24</sup> See National Telecommunications Cooperative Association, *NTCA 2006 Broadband/Internet Availability Survey Report* at 6 (Aug 2006), available at [http://www.ntca.org/content\\_documents/2006%20NTCA%20Broadband%20Survey%20Report.pdf](http://www.ntca.org/content_documents/2006%20NTCA%20Broadband%20Survey%20Report.pdf).

<sup>25</sup> See Comments of the Cellular Telecommunications Industry Association in response to *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45 at 2. (filed April 16, 2007) (“706 NOI Comments”).

<sup>26</sup> *Id.* at 4.

<sup>27</sup> *Id.*

activity by the cable and telephone companies, then it may be considered a competitive alternative and counted as part of the relevant market.”<sup>28</sup> The fact that growth in new wireless broadband subscriptions far outpaces wired alternatives is a strong indication of the growing importance of wireless as a broadband competitor.<sup>29</sup> In the face of this trend, cable and DSL providers must adjust the prices and packaging of their broadband offerings accordingly.

The fact that a wireless broadband experience may differ in some respects from a desktop experience does not reduce the impact of the wireless platform on the broadband marketplace. The Telecommunications Industry Association (“TIA”), the leading trade association for the companies that actually create and manufacture the technologies that make the Internet work, has previously submitted to the Commission that, regardless of specific speeds assigned to one technology over another, all are playing important roles in the U.S. broadband market.<sup>30</sup> Furthermore, as broadband bandwidth has increased across all technology platforms, the Commission’s definition of broadband as “200 kilobits downstream” has had no negative impact on broadband technologies and continued innovation.<sup>31</sup> Arbitrary distinctions based on bandwidth ignore the innovation, investment and competition underway in the wireless broadband market.

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<sup>28</sup> *Broadband Connectivity Competition Policy*, FTC Staff Report (June 2007), 104-105.

<sup>29</sup> See *High-Speed Services for Internet Access: Status as of June 30, 2006*, released January 31, 2007, at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-270128A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf), at Tables 1.

<sup>30</sup> See Comments of the Telecommunications Industry Association at 4-7, 706 NOI Comments.

<sup>31</sup> *Id.*



**c. Comparisons of the U.S. Broadband Market to Those of Other OECD Member Nations Provides No Support for the Adoption of Net Neutrality.**

Net Neutrality advocates would have the Commission believe there is a problem afoot, because the U.S. is not ranked first in broadband deployment by the Organization for Economic Cooperation and Development (OECD), and Net Neutrality is a solution to that problem.<sup>32</sup> To the contrary, OECD rankings fail to accurately portray the U.S.

broadband market in comparison to those in other OECD member nations. As

Commissioner McDowell has explained, the OECD rankings fail in three critical areas:

“First...the OECD methodology measures ‘broadband connections per capita.’ Countries are punished or rewarded by the OECD analysis based on the number of persons living in a household or the number of people working in a business. Similarly, even if every existing broadband subscriber in America had a fiber-fed 100 mbps broadband connection, we would only rank 12<sup>th</sup>. Second, it does not take into account household broadband adoption rates... Third, the study does not take into account a country’s geographic size and its relation to population density.”<sup>33</sup>

Among EU countries, inter-platform competition remains spartan compared to that existing in the U.S., as DSL constituted 82 percent of all broadband lines in the EU by the third quarter of 2006.<sup>34</sup> The EU itself deems broadband in Europe as lagging that of the U.S. in terms of inter-platform competition *and* bandwidth.<sup>35</sup> Furthermore, while

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<sup>32</sup> See, e.g. Consumer Group Comments at 69-78; OECD Broadband Statistics to June 2006, found at [http://www.oecd.org/document/9/0,3343,en\\_2825\\_495656\\_37529673\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/9/0,3343,en_2825_495656_37529673_1_1_1_1,00.html)

<sup>33</sup> FCC Commissioner Robert McDowell, *Broadband Policy Summit III* at 4-5, (June 7, 2007), found at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-273742A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-273742A1.pdf)

<sup>34</sup> See European Competitive Telecommunications Association, *Broadband Scorecard Q3 2006* available at <http://www.ectaportal.com/en/upload/File/Broadband%20Scorecards/Q306/FINALBBScQ306.pdf>.

<sup>35</sup> See European Commission, *12th Report on the Implementation of the Telecommunications Regulatory Package – 2006* at 12 (Mar 29, 2007), available at [http://ec.europa.eu/information\\_society/policy/comm/doc/implementation\\_enforcement/annualreports/12threport/com\\_2007\\_155\\_en.pdf](http://ec.europa.eu/information_society/policy/comm/doc/implementation_enforcement/annualreports/12threport/com_2007_155_en.pdf). Note that the EU considers geography and population density to be a major consideration in assessing broadband deployment..

Net Neutrality advocates would have the Commission believe OECD member nations' represent a broadband panacea, the reality is that they are embarking on the same internal discussion that ultimately produced the light regulatory touch that has resulted in billions of dollars of investment in the U.S. In Germany, for instance, Deutsche Telecom sought and received from the German Government a "regulatory holiday" to encourage the deployment of its new \$3 billion Fiber-to-the-Curb and VDSL2 network.<sup>36</sup> Conversely, British Telecom has indicated it is not considering the deployment of FTTH due to the UK's regulatory regime.<sup>37</sup>

Should policymakers seek to compare the U.S. market to those abroad for purposes of assessing policies that can be helpful for encouraging broadband deployment, Alcatel-Lucent agrees with comments submitted by TIA in this and other proceedings urging the Commission to consider a host of non-regulatory programs being employed elsewhere.<sup>38</sup>

#### **IV. THE RECORD FAILS TO STATE A CASE IN SUPPORT OF NET NEUTRALITY REGULATION.**

Public policy must remain balanced between all stakeholders. It is for that reason that Alcatel-Lucent initially helped form the High Tech Broadband Coalition's "Connectivity Principles."<sup>39</sup> Net Neutrality advocates have failed to demonstrate a need to apply precipitous Net Neutrality regulation to the U.S. broadband market, which is

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<sup>36</sup> See Heavy Reading, *EC Threatens Germany with Court Case* (Feb. 26, 2007) [http://www.heavyreading.com/document.asp?doc\\_id=118148](http://www.heavyreading.com/document.asp?doc_id=118148).

<sup>37</sup> See David Myer, *Bt Says No to Traffic Shaping*, ZDNet-Uk (Apr. 12, 2007) <http://news.zdnet.co.uk/communications/0,1000000085,39286687,00.htm>.

<sup>38</sup> Comments of the Telecommunications Industry Association WC Docket No. 07-52 (filed June 15, 2007) at 10-11; TIA Comments, GN Docket No. 07-45 at 9-12.

<sup>39</sup> Letter from the High-Tech Broadband Coalition, to the Honorable Michael Powell, Chairman, Federal Communications Commission, CC Docket Nos. 01-338, 96-98, 98-147 (filed Sept. 25, 2003)

highly competitive, and where innovation is rampant. The application of Net Neutrality to the U.S. broadband market will only result in the creation of an anticompetitive marketplace, the very fear Net Neutrality purports to address.

Respectfully Submitted,

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